Water Conservation Area Decompartmentalization Scenarios

January 30, 1998 (updated 2/17/98)

To assist with the design of components for Alternative 4, three WCA decompartmentalization scenarios were developed and simulated using the SFWMM. These 3 scenarios are intended to provide preliminary indications of the benefits and possible unintended consequences of removing levees and water control structures from the C&SF Project. The three scenarios progressively remove more C&SF Project components and use Alternative 3 as the base to "build" from. Alternative 3 was used since it contains the necessary upstream storage facilities, levee underseepage and groundwater management features for L-30 and L-31N, and also has the most relevant operational rules for the rain-driven delivery component.

Description of Scenarios

1. WCA 3 Decompartmentalization

-Denoted as SO3ALR on performance measure graphics (SOuthern WCA-3A Levee Removal).

This scenario uses the same assumptions & components as Alternative 3, but includes the removal of the following levees, canals, and associated water control structures:

a. L-28 and L-28tieback, L-28 borrow canal, and structures S-344, S-343A&B.

b. L-29 and L-29 canal, S-12's, S-333, S-334, S-355, S-356 (already relocated to L-31N as part of Alternative3.

c. L-67A&C and L-67A canal up to the Miami Canal, and structures S-345 and S-151.

The Miami Canal was not removed since it is a necessary feature for providing water supply to Miami-Dade County and the South Dade Conveyance System. The Miami Canal also plays an important role in making environmental water supply deliveries to the north central portion of WCA-3A (north of S-339 and S-340).

Operational changes from Alternative 3 included:

a. Removal of rain-driven trigger gages in northeast and northwest Shark River Slough. These were no longer useful since control at L-29 was removed.

b. Removal of the 3A-28 import trigger for bringing water from Lake Okeechobee (note that all the other northern and central WCA triggers were not changed from Alt 3.

2. WCA 3 & 2 Decompartmentalization

-Denoted as CA2ALR on performance measure graphics (WCA-2A Levee Removal).

This scenario used the same assumptions & components as the WCA3 Decompartmentalization scenario, but includes the removal of the following levees, canals, and associated water control structures:

a. L-38E, L-38W, and L-35B, and structures S11, S-144, S-145, S-146, S-141, S-142, and

S-143 (S-34 remains for providing water supply deliveries to LECSA-2).

Operational changes from the WCA3 Decompartmentalization scenario:
None

3. WCA 3 & 2 & 1 Decompartmentalization
-Denoted as SCA1LR on performance measure graphics (Southern WCA-1 Levee Removal).

This scenario used the same assumptions & components as the WCA3&2 Decompartmentalization scenario, but includes the removal of the levee that separates the Loxahatchee National Wildlife Refuge (LNWR) from WCA-2A and the associated water control structures:

a. L-39, and structures S-10A,C,D and E, (Hillsboro Canal and S-39 left intact to provide water supply deliveries to LECSA-1).

Operational changes from the WCA3&2 Decompartmentalization scenario:
Remove rule which limits LECSA-1 water supply deliveries based on difference between WCA-1 stage and Lake Okeechobee stage (this rule is described on the current interim regulation schedule for WCA-1).

Preliminary Results

Preliminary results of the scenario simulations as displayed by the hydrologic performance measures were presented during the 2/9/98 Restudy team meeting in West Palm Beach.